



UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office

**NOTICE OF ALLOWANCE AND ISSUE FEE DUE**

HM11/1209

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| APPLICATION NO.       | FILING DATE                              | TOTAL CLAIMS | EXAMINER AND GROUP ART UNIT | DATE MAILED   |
|-----------------------|--|--------------|-----------------------------|---------------|
| 08/744,882            | 11/08/96                                 | 011          | GAMBEL, P                   | 1644 12/09/96 |
| First Named Applicant | ISNER, 35 USC 154(b) term ext. = 0 Days. |              |                             |               |

TITLE OF INVENTION METHODS FOR ENHANCING ANGIOGENESIS WITH ENDOTHELIAL PROGENITOR CELLS.  
(AS AMENDED)

| ATTY'S DOCKET NO. | CLASS-SUBCLASS | BATCH NO. | APPLN. TYPE | SMALL ENTITY | FEE DUE  | DATE DUE |
|-------------------|----------------|-----------|-------------|--------------|----------|----------|
| 1 46963           | 424-093.700    | M62       | UTILITY     | YES          | \$605.00 | 03/09/98 |

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED.**

**THE ISSUE FEE MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED.**

**HOW TO RESPOND TO THIS NOTICE:**

**I. Review the SMALL ENTITY status shown above.**

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

- A. If the status is changed, pay twice the amount of the FEE DUE shown above and notify the Patent and Trademark Office of the change in status, or
- B. If the status is the same, pay the FEE DUE shown above.

If the SMALL ENTITY is shown as NO:

- A. Pay FEE DUE shown above, or
- B. File verified statement of Small Entity Status before, or with, payment of 1/2 the FEE DUE shown above.

**II. Part B-Issue Fee Transmittal should be completed and returned to the Patent and Trademark Office (PTO) with your ISSUE FEE. Even if the ISSUE FEE has already been paid by charge to deposit account, Part B Issue Fee Transmittal should be completed and returned. If you are charging the ISSUE FEE to your deposit account, section "4b" of Part B-Issue Fee Transmittal should be completed and an extra copy of the form should be submitted.**

**III. All communications regarding this application must give application number and batch number. Please direct all communications prior to issuance to Box ISSUE FEE unless advised to the contrary.**

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**

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|                    |             |                       |                     |
|--------------------|-------------|-----------------------|---------------------|
| APPLICATION NUMBER | FILING DATE | FIRST NAMED APPLICANT | ATTORNEY DOCKET NO. |
| 08/744,882         | 11/08/96    | ISNER                 | J 46963             |

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EXAMINER

GAMBEL, P

ART UNIT PAPER NUMBER

1644

16/B

DATE MAILED: 12/09/98

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

**NOTICE OF ALLOWABILITY**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance and Issue Fee Due or other appropriate communication will be mailed in due course.

- ☒ This communication is responsive to 1, 5, 9, 10, 12-18 REAMENDMENTS 1-11
- ☒ The allowed claim(s) is/are 9/22/98; 12/7/98
- ☐ The drawings filed on \_\_\_\_\_ are acceptable.
- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been
- ☐ received.
- ☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

- ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

A SHORTENED STATUTORY PERIOD FOR RESPONSE to comply with the requirements noted below is set to EXPIRE THREE MONTHS FROM THE "DATE MAILED" of this Office action. Failure to timely comply will result in ABANDONMENT of this application. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

- ☐ Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL APPLICATION, PTO-152, which discloses that the oath or declaration is deficient. A SUBSTITUTE OATH OR DECLARATION IS REQUIRED.
- ☒ Applicant MUST submit NEW FORMAL DRAWINGS
- ☐ because the originally filed drawings were declared by applicant to be Informal.
- ☒ including changes required by the Notice of Draftperson's Patent Drawing Review, PTO-948, attached hereto or to Paper No. 6
- ☐ including changes required by the proposed drawing correction filed on \_\_\_\_\_, which has been approved by the examiner.
- ☐ including changes required by the attached Examiner's Amendment/Comment.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the reverse side of the drawings. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftperson.

- ☐ Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Any response to this letter should include, in the upper right hand corner, the APPLICATION NUMBER (SERIES CODE/SERIAL NUMBER). If applicant has received a Notice of Allowance and Issue Fee Due, the ISSUE BATCH NUMBER and DATE of the NOTICE OF ALLOWANCE should also be included.

**Attachment(s)**

- ☒ Notice of References Cited, PTO-892
- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 11
- ☒ Notice of Draftperson's Patent Drawing Review, PTO-948
- ☐ Notice of Informal Patent Application, PTO-152
- ☒ Interview Summary, PTO-413
- ☒ Examiner's Amendment/Comment
- ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
- ☒ Examiner's Statement of Reasons for Allowance

# 16/B

### DETAILED ACTION

1. The location of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 1644, Technology Center 1600.
2. Applicant's compliance with the Sequence Rules, filed 1/9/98 (Paper No. 8), is acknowledged.
3. Applicant's amendment, filed 9/22/98 (Paper No. 13) is acknowledged.
4. It is noted that claims 1, 5, 6, 9, 10 and 12-18 were acted upon as the elected invention and that claims 2, 4, 7, 8, 11, 19-22 were withdrawn from further consideration by the examiner, 37 C.F.R. § 1.142(b) as being drawn to a nonelected inventions. Claim 3 was canceled previously.

### EXAMINER'S AMENDMENT

5. An Examiner's Amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 C.F.R. § 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the Issue Fee.
6. Authorization for this Examiner's Amendment was given in a telephone interview with David Resnick on 12/7/98.
7. Amend the title by adding after "ANGIOGENESIS" :  
-- WITH ENDOTHELIAL PROGENITOR CELLS -- .
8. Cancel claims 2, 4, 6, 7, 8, 11, 19-22.

### REASONS FOR ALLOWANCE

9. The following is an Examiner's Statement of Reasons for Allowance:

Upon reconsideration of applicant's arguments, filed 9/22/98 (Paper No. 13), and in view that applicant was the first to isolate endothelial precursor cells from the peripheral blood; the pending claims are deemed allowable in view of such unexpected results that endothelial precursor cells could be isolated from the peripheral blood and, in turn, said isolated endothelial precursor cells be administer to induce the formation of blood vessel formation in vivo. It is noted that the claimed isolated endothelial progenitor cell(s) refers to discrete endothelial progenitor cells and not to a mixed cell population and comprising young and primitive cells as taught by Noshiki et al. (Nature Medicine, 1996; of record) and distinguished from by applicant's amendment, filed 9/22/98 (Paper No. 13).

Isner (U.S. Patent No. 5,652,225), Isner et al. (Lancet, 1966; 1449), and Tsurumi et al. (Circulation, 1997) Baumgartner et al. (Circulation, 1998) are cited in support of the claimed limitations drawn to a nucleic acid encoding an endothelial cell mitogen.

Serial No. 08/744882  
Art Unit 1644


10. Any comments considered necessary by applicant must be submitted no later than the payment of the Issue Fee and, to avoid processing delays, should preferably **accompany** the Issue Fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phillip Gambel whose telephone number is (703) 308-3997. The examiner can normally be reached Monday through Thursday from 7:30 am to 6:00 pm. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on (703) 308-3973. Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 1600 receptionist whose telephone number is (703) 308-0196.

Papers related to this application may be submitted to Technology Center 1600 by facsimile transmission. Papers should be faxed to Technology Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CM1 Fax Center telephone number is (703) 305-3014.



Phillip Gambel, Ph.D.  
Patent Examiner  
Group 1640  
Technology Center 1600  
December 7, 1998



CHRISTINA Y. CHAN  
SUPERVISORY PATENT EXAMINER  
GROUP 1800-1640